

Serial No. 10/607,012
Response to Office Action of December 21, 2005

BEST AVAILABLE COPY

REMARKS

Applicant notes with appreciation the withdrawal of the prior rejections as part of Paper No. 20051214 and the potential allowability of claims 15-18, 32 and 33. The following remarks serve to focus the prosecution on distinct compositional differences of the claimed invention and are believed to place the pending claims in condition for allowance, without need for claim amendment. Entry of this response is respectfully requested.

Currently, claims 1-7, 9-14, 19-22, 29-31 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Park et al. (U.S. Patent 6,271,278). Upon overcoming the outstanding rejection of these pending claims over Park et al., all of the pending claims will be in allowable form.

The basis of the outstanding rejection is articulated in Paper No. 20051214, section 10, paragraph spanning pages 3-4. Within section 10 of the outstanding Office Action, Park is cited as teaching a composition comprising:

a mixture of ethylenically unsaturated monomers, a cross-linking agent and a disintegrant containing a second polymer. [Notation to relevant specification portions of Park et al.] Park differs from the present invention in that the present invention expressly claims a first sulfonic and/or phosphonic and a second monomer while Park teaches, in general, a small list of monomers and mixtures including AMPS and HEMA.

The standards and basis for the *prima facie* case of obviousness are articulated in Paper No. 20051214, section 11, pages 4-5.

Applicant respectfully submits that the pending claims include several distinguishing attributes relative to Park et al. that are neither taught nor contemplated therin. Additionally, Park et al. appears to in fact teach away from a number of the attributes of the pending claims.

Serial No. 10/607,012
Response to Office Action of December 21, 2005

The pending claims recite the patentably distinct feature of forming an interpenetrating polymer network prepared by independently cross linking a first polymer and a second polymer. While Park et al. shares the common words of "interpenetrating network," the disclosure of Park et al. makes clear that the two polymer components of a composition are in fact cross linked together (see Park et al., column 4, lines 51-53; column 24, lines 21-29). The net result of Park et al. cross linking disintegrant particles (e.g. Ac-Di-Sol®) is that the resulting composition of Park et al. fails to satisfy the claim limitations with respect to an interpenetrating polymer network that has a second polymer "polymerized independently of said first polymer and interpenetrating said first polymer" (Independent claims 1 and 29).

Additionally, Park et al. upon inclusion of a second polymer as a disintegrant particle fails to polymerize the second polymer within a mixture of first polymer monomer to the first polymer polymerization solution. Rather, Park et al. introduces a preformed polymer as a disintegrant particle into a cross-linkable monomer solution resulting in localized inhomogeneities (column 24, lines 27-29). As a result, while the composition of independent pending claims 1 and 29 has a first polymer network only containing bonds within the network and a second polymer network only having bonds within the second polymer network sharing the same volume as the first polymer network, Park et al. only teaches to polymer compositions with covalent bonds between the polymerized monomer and the disintegrant particles. Applicant submits that this compositional difference of the pending claims relative to Park et al. is entitled to patentable weight.

Applicant agrees with the Examiner in regard to the finding detailed in Paper No. 20051214, page 4 in that Park et al. is silent as to language found within the pending claims with

Serial No. 10/607,012
Response to Office Action of December 21, 2005

respect to a first polymer of the network inclusive of sulfonic and/or phosphonic acid groups. It is respectfully submitted that this limitation is likewise entitled to patentable weight.

It is submitted that a *prima facie* case of obviousness with respect to independent claims 28 and 29 also has not been met with regard to the nature of the pendant groups of sulfonic or phosphonic acid recited in these claims. Rather, the outstanding Office Action is premised on an extension from acrylic acid (AA)/acrylamide (AM) mixtures and the advantages associated with mixtures of hydrophilic/hydrophobic monomers to produce hydrogels. (Paper No. 20051214, section 11, page 5). However, for one of ordinary skill in the art to prepare a composition consistent with that recited in the pending claims based on Park et al. would require the specific combination of two monomers from a preferred group of nine such monomers (Park et al., column 6, lines 35-42) without any real direction other than the knowledge that hydrophobic monomer content limited swelling in water to provide improved mechanical strength at the expense of swell rate (column 12, lines 52-58). Even assuming that Park et al. taught an interpenetrating network, the outstanding rejection represents an invitation to try to form an inventive composition based on the teachings of Park et al. As Park et al. teaches the benefits of rapid swell rate and therefore hydrophilicity, it is respectfully submitted that Park et al. would not provide to one of ordinary skill in the art incentive to experiment with an AMPS/HEMA mixture to form the first polymer network of the pending claims as this combination lacks rapid swell as described by Park et al. Rather, Applicant submits that the outstanding rejection represents a hindsight reconstruction.

The Examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177

Serial No. 10/607,012
Response to Office Action of December 21, 2005

(CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). Rather, in determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.'"

In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). "Merely denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." *Dembiczak*, 175 F.3d at 999-1000, 50 USPQ2d at 1617, citing *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993).

With respect to forming an interpenetrating network between a first polymer and a second polymer in which there are no covalent bonds between the two polymers, Applicant submits that Park et al. fails to afford a suggestion or motivation that such a composition is desirable. Indeed, Park et al. relies on the contrary cross linking between disintegrant particles and polymer formed *in situ* to form localized inhomogeneities thought to be of considerable value in terms of the resultant material properties with respect to shrinkage (column 24, lines 5-34). In light of this teaching away and a lack of teaching and/or suggestion as to noncoupled first and second polymers sharing the same volume as per pending independent claims 1 and 29, Applicant submits that a *prima facie* case for obviousness has not been met.

Reliance on *In Re Rouffet* in the prior outstanding rejection is submitted to be misplaced, as the outstanding rejection only includes a single reference, namely Park et al., and there is no additional reference cited for which the teaching is to be combined. In light of the above remarks, reconsideration and withdrawal of the rejection as to claims 1-7, 9-14, 19-22, 29-31 and 34 under 35 U.S.C. §103(a) over Park et al. is requested.

Serial No. 10/607,012
Response to Office Action of December 21, 2005

Summary

Claims 1-7, 9-22 and 29-34 remain pending in this application. The potential allowability of claims 15-18, 32 and 33 is noted with appreciation. Entry of this response is respectfully requested and submitted to place all the pending claims in current form in condition for allowance. Should the Examiner have any suggestions as to how to improve the form of the pending claims, he is respectfully requested to contact the undersigned attorney in charge of this application to resolve any outstanding issues.

Please charge the fees and any costs for this Amendment, A Two Month Extension Of Time, and the filing of a Notice of Appeal to the U.S. Patent Office Deposit Account number 19-2201 for the U.S. Army Materiel Command. Any deficiency or overpayment should be charged or credited to this numbered Deposit Account.

May 19, 2006

William Randolph

William Randolph
Patent Attorney, Reg. No. 28,986
U.S. Army Materiel Command
9301 Chapek Road
Fort Belvoir, VA 22060-5527

Telephone (703) 806-8254

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.